



Memorandum

To: Honorable Maso and Members of the Frisco City Council

cc: George Purefoy, City Manager
Paul Knippel, P.E., Director of Engineering
Elizabeth Metting, P.E., Assistant Director / City Engineer

From: Lori Chapin, P.E., Senior Civil Engineer

Date: June 29, 2010

Subject: Consider and act upon adoption of a Resolution authorizing the City Manager to execute a Professional Services Agreement with Freese and Nichols, Inc., for a detailed Hydrologic and Hydraulic Analysis of the Cottonwood Creek Watershed.

Action Requested: City Council consideration and approval of a Resolution authorizing the City Manager to execute a Professional Services Agreement with Freese and Nichols, Inc. (FNI), in the amount of \$206,580, for a detailed Hydrologic and Hydraulic (H&H) Analysis of Cottonwood Creek.

Background Information: The City of Frisco has adopted and administers federally required development standards that are necessary to maintain eligibility for property owners to obtain flood insurance in the City. To assist in floodplain management comprehensive Hydrologic and Hydraulic studies for all watersheds within the City are needed. In the absence of a comprehensive study, the fully developed floodplain is established over time by numerous consultants and development projects. This creates a management challenge and results in lack of uniform data and quality assurance. By having a known, fully developed floodplain, developers would be able to make decisions early in the development process regarding flood prone areas and developable property.

The City is currently experiencing an increase in development requests within the Cottonwood Creek Watershed. Cottonwood Creek is located primarily in the west-central portion of the City and is a large creek with a contributing drainage area of approximately 14 square miles. It is recommended that the City proceed with an

H&H analysis of this watershed. The following summarizes the primary phases of the project:

Phase 1:

- Perform detailed hydrologic and hydraulic analyses on Cottonwood Branch Tributary 3 due to immediate and impending development.
- Determine the detention effects of existing ponds in the watershed along Cottonwood Branch Tributary 3.
- Provide a summary memo documenting the methodology; hydraulic work maps showing the existing and fully developed floodplain; and electronic models.

Phase 2:

- Perform a detailed hydrologic analysis for the remaining areas of the Cottonwood Creek Watershed.
- Determine existing and fully developed land use discharges along Cottonwood Creek and its tributaries.

Phase 3:

- Perform a detailed hydraulic analysis for Cottonwood Creek and its tributaries.
- Determine existing and fully developed 100-year floodplain maps for guidance with future development and to identify flood prone areas.
- Provide electronic models.

Refer to the attached Study Area Map, which shows the watershed area included in this project.

The cost of the Agreement is \$206,580, and is anticipated to take approximately six months to complete. Should additional services be required, they shall be performed on an individual basis upon written authorization by the City.

Alternatives: City Council could consider the following alternatives:

- Approval of a Resolution
- Send back to staff with direction

Financial Considerations: Staff recommends that funding for the Project come from the Storm Water Utility Fund FY2010 operating budget.

Legal Review: City Attorney's Office has approved as to form and legality.

Supporting Documents: Supporting documents include the following items:

- Copy of Resolution

Agenda Memorandum

Professional Services Agreement – Freese and Nichols, Inc.

Cottonwood Creek Watershed – Detailed Hydrologic & Hydraulic Analysis

City Council Meeting of June 29, 2010

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- Copy of the Professional Services Agreement
- Study Area Map

Staff Recommendation: Staff recommends approval and will be available at the meeting to answer any questions Council may have regarding the project.